

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-66. (Canceled)

67. (New) A method of analyzing a sample for presence of a cancer cell or pathogen, comprising:

- (a) obtaining a sample from a patient containing a cell or population of cells;
- (b) introducing the cell or the population of cells into a fish embryo;
- and
- (c) detecting a property of the cell or the population of cells to indicate whether the cell or the population of cells comprises a cancer cell or pathogen.

68. (New) The method of claim 67, wherein the sample is obtained from bone marrow, peripheral blood, a body fluid or a transplanted tissue.

69. (New) The method of claim 67, wherein the sample is from a biopsy.

70. (New) The method of claim 67, wherein the cell or the population of cells is a human cell or a population of human cells.

71. (New) The method of claim 67, wherein the fish embryo is a zebrafish, medaka, Giant rerio or puffer fish embryo.

72. (New) The method of claim 67, wherein introducing comprises microinjecting the cell or the population of cells into the fish embryo.

73. (New) The method of claim 67, wherein the cell or the population of cells are microinjected into the blastula of the embryo.

74. (New) The method of claim 67, wherein the cell or the population of cells are microinjected into the yolk of the fish embryo.

75. (New) The method of claim 67, wherein a population of cells are introduced into the fish embryo.

76. (New) The method of claim 75, further comprising culturing the fish embryo after the population of cells is introduced, whereby cancer cells present in the cell population proliferate.

77. (New) The method of claim 75, further comprising culturing the fish embryo after the population of cells is introduced, whereby a pathogen present in the cell population is amplified.

78. (New) The method of claim 75, wherein the property detected is cell proliferation or metastasis, detection of proliferation or metastasis being an indication that the population of cells contains cancer cells.

79. (New) The method of claim 75, wherein the property detected is the rate of cell proliferation or metastasis.

80. (New) The method of claim 78, wherein cell proliferation is detected by immunostaining with an antibody specific for cancer cells.

81. (New) The method of claim 78, wherein cell proliferation is detected by detecting cellular uptake of dyes specifically taken up by cancer cells.

82. (New) The method of claim 78, wherein metastasis is detected by detecting movement of cells from the cell population relative to an initial site at which the cell population was introduced.

83. (New) The method of claim 78, further comprising treating cancer cells within the cell population with an antineoplastic procedure to determine the effectiveness of treatment on the cancer cells.

84. (New) The method of claim 67, wherein the pathogen is a bacterium, a virus or a fungus.